



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,125	11/12/2003	Jasdeep Sohi	HSTI 0139 PUSP / H 50028	6225
35312 7590 02/27/2008 BROOKS KUSHMAN P.C./ HENKEL CORPORATION 1000 TOWN CENTER TWENTY-SECOND FLOOR SOUTHFIELD, MI 48075-1238			EXAMINER ZHENG, LOIS L	
			ART UNIT 1793	PAPER NUMBER
			MAIL DATE 02/27/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/706,125	<b>Applicant(s)</b> SOHI ET AL.	
	<b>Examiner</b> LOIS ZHENG	<b>Art Unit</b> 1793	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 January 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 11, 12 and 22-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11, 12 and 22-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 14 September 2007 has been entered.

### ***Status of Claims***

2. Claims 22 and 25 are amended in view of applicant's claim amendments filed 14 January 2008. Claims 10 and 13-21 are canceled. Therefore, claims 1-9, 11-12 and 22-30 are currently under examination.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7, 11-12, 22-24, 27-28 and 30 are rejected under 35 U.S.C. 103(a) as unpatentable over Riesop WO 99/24638(i.e. corresponding English equivalent is Riesop US 6,537,387 B1 (Riesop) in view of Murphy US 5,391,234(Murphy).

Riesop teaches a process for applying a temporary protective coating on steel strips coated with zinc or zinc alloys. The temporary protective coating provides temporary corrosion protection for transport and storage purpose until they are coated with a permanent anticorrosive layer(col. 1 lines 8-20). Riesop further teaches that the aqueous(i.e. water) treatment solution used for this temporary protective coating comprises 1-150 g/l of phosphate ions(col. 2 lines 35-37), up to 20g/l of titanium ions, preferably as hexafluorotitanate ions(col. 2 lines 56-57), up to 30 g/l of fluoride ions which may be in the form of hexafluoro anions of titanium(col. 2 lines 62-65), and having a pH of 1.5-3.5 (col. 2 line 39), for a time period of 1-6 seconds(col. 3 lines 38-42). Riesop further teaches the drying of the temporary protective coating solution(col. 3 lines 42-47).

Regarding claims 1, Riesop teaches the claimed coating step(a) and the claimed drying step(b). Even though Riesop does not explicitly teach the claimed conversion coating step(d), one of ordinary skill in the art would have found it obvious to have used conversion coating as the permanent anticorrosive coating as taught by Riesop since conversion coating are widely used as an effective method for forming a permanent anticorrosive coating on metal surfaces.

In addition, the concentrations of phosphate ions and fluorometallate(i.e. hexafluorotitanate ions) overlap the claimed phosphate and fluorometallate ion concentrations. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed phosphate and fluorometallate ion concentration ranges from the disclosed ranges of Riesop would have been obvious to one skilled in

the art since Riesop teach the same utilities in its disclosed phosphate and fluorometallate ion concentration ranges. Furthermore, the treatment solution pH and the treatment time duration as taught by Riesop reads on the claimed pH and treatment time duration.

However, Riesop does not teach the claimed step (c) of removing the primary passivating coating from the metal surface.

Murphy teaches applying an alkaline solution to remove or strip existing protective coating from metal surfaces such as aluminum, zinc and their alloys(col. 1 lines 13-18, col. 2 line 32 – col. 3 line 7). Murphy further teaches that removal of the coating is necessary when there are defects in the coating or there is a desire to change to a different coating(col. 1 lines 20-38).

Therefore, it would have been obvious to one of ordinary skill in the art to have incorporated the application of an alkaline solution to remove a protective coating on a metal surface as taught by Murphy into the process of Riesop to remove the temporary coating before the permanent protective coating is applied since Murphy teaches that it is necessary to remove existing coating before applying a different coating.

Regarding claim 2, since the phosphate and fluorometallate ion concentrations as taught by Riesop in view of Murphy overlap the claimed phosphate and fluorometallate ion concentrations, the ratio of fluorometallate anions and phosphate ions would also overlap the claimed fluorometallate:phosphate ratio as claimed. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed fluorometallate:phosphate ratio range from the disclosed range of

Riesop in view of Murphy would have been obvious to one skilled in the art since Riesop in view of Murphy teach the same utilities in their disclosed fluorometallate:phosphate ratio range.

Regarding claims 3-7, since the phosphate and fluorometallate ion concentrations as taught by Riesop in view of Murphy overlap the claimed phosphate and fluorometallate ion concentrations, the corresponding wt% of phosphate, fluorometallate and water present in the temporary coating solution of Riesop in view of Murphy would have overlapped the claimed wt% of phosphate, fluorometallate and water as claimed. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed phosphate, fluorometallate and water wt% ranges from the disclosed ranges of Riesop in view of Murphy would have been obvious to one skilled in the art since Riesop in view of Murphy teach the same utilities in their disclosed phosphate, fluorometallate and water wt% ranges.

Regarding claim 11, Riesop teaches that the temporary coating is used for corrosion protection for storage purposes(col. 1 lines 8-11). Therefore, one of ordinary skill in the art would have found it obvious that the metal surfaces coated by the temporary protective coating of Riesop in view Murphy is stored prior to the removal of the temporary coating layer which prepares the metal surface for a final permanent protective coating.

Regarding claim 12, Riesop in view of Murphy teaches exposing of the temporary coating (i.e. the primary passivating coating as claimed) to an alkaline solution prior to step (d) as claimed.

Regarding claims 22-24, since the temporary protective coating of Riesop in view of Murphy provides temporary corrosion protection for transport and storage purpose, the claimed step of "leaving the primary passivating coating on the metal surface for predetermined time period during shipping and storage of the metal surface" is inherently taking place in the process of Riesop in view of Murphy. The remaining claimed process steps are rejected for the same reasons as set forth in the rejection of claim 1 above.

Regarding claim 27, the instant claim is mostly rejected for the same reasons as stated in the rejection of claim 1 above. In addition, even though Riesop in view of Murphy does not explicitly teach the claimed final organic coating step, one of ordinary skill in the art would have found it obvious to have applied a layer of organic top coat in the process of Riesop in view of Murphy in order to provide a decorative finish to the metal surface. It would also have been obvious to one of ordinary skill in the art to have applied a layer of polymeric lubricating coating to the passivated metal surface as taught by Riesop in view of Murphy in order to prepare the metal surface for further mechanical working.

Regarding claim 28, the coating time period of 1-6 seconds as taught by Riesop in view of Murphy overlaps the claimed coating time period of 0.1-2.0 seconds. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed coating time period from the disclosed range of Riesop in view of Murphy would have been obvious to one of ordinary skill in the art since Riesop in view of Murphy teach the same utilities in their disclosed coating time period.

Regarding claim 30, Riesop further teaches that the coating temperature is in the range of about 20°C to about 40°C(col. 3 lines 31-33), which reads on the claimed 20-66°C.

5. Claims 8-9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Riesop in view of Murphy, and further in view of Torok et al. US 4,287,008(Torok).

The teachings of Riesop in view of Murphy are discussed in paragraph 4 above. However, Riesop in view of Murphy do not explicitly teach a metal surface with aluminum, zinc and silicon composition as recited in claims 8-9.

Torok teaches that an aluminum-zinc coating containing 55% Al, balance zinc with about 1.6% Si is an optimum composition for coating steel surfaces(col. 3 lines 24-27).

Therefore, it would have been obvious to one of ordinary skill in the art to have incorporated the Al-Zn coating with 55% Al, balance zinc with about 1.5% Si as taught by Torok into the galvanized coating on steel as taught by Riesop in view of Murphy since Torok teaches that the optimum composition for Al-Zn coated steel is 55% Al balance Zn with about 1.6% Si.

In addition, the Al-Zn coating composition as taught by Riesop in view of Murphy and Torok is substantially the same as the claimed Al-Zn coating composition of 55% Al, 43.5% Zn and 1.5% Si. Therefore, one of ordinary skill in the art would have found it obvious that the temporary coating process as taught by Riesop in view of Murphy and Torok can be applied to the claimed galvanic coating surface with the claimed Al-Zn coating composition with expected success. See MPEP 2144.05.

6. Claims 25-26 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riesop in view of Murphy, and further in view of Lindert et al. US 4,970,264 (Lindert).

The teachings of Riesop in view of Murphy are discussed in paragraph 4 above. However, Riesop in view of Murphy do not explicitly teach the claimed amino-phenolic polymer in their temporary protective coating solution.

Lindert teaches adding amino-phenolic polymer to metal surface treatment solutions to enhance the corrosion resistance and paint adhesion characteristics of the metal surface(col. 1 lines 27-33, abstract). The coating solution may additionally comprise phosphoric acid, hexafluorotitanic acid, hexafluorozirconic acid(col. 5 lines 3-19). Lindert further teaches that that the amino-phenolic polymer is present in the amount of about 0.001% to about 80%(col. 6 lines 17-40).

Regarding claims 25 and 29, it would have been obvious to one of ordinary skill in the art to have incorporated about 0.001% to about 80% of amino-phenolic polymer as taught by Lindert into the temporary protective coating solution of Riesop in view of Murphy in order to enhance the corrosion resistance and paint adhesion characteristics of the metal surface as taught by Lindert. In addition, the amount of amino-phenolic polymer as taught by Riesop in view of Murphy and Lindert overlap the claimed amount of amino-phenolic polymer as recited in claims 25 and 29. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed amino-phenolic polymer concentration range from the disclosed amino-phenolic polymer amount % range of Riesop in view of Murphy and Lindert would have been obvious to

one of ordinary skill in the art since Riesop in view of Murphy and Lindert teach the same utilities in their disclosed amino-phenolic polymer amount % range.

In addition, with respect to the amended semi-open transitional phrase "consisting essentially of", it is well settled that if an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention. In re De Lajarte, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). See also Ex parte Hoffman, 12 USPQ2d 1061, 1063-64 (Bd. Pat. App. & Inter. 1989). See MPEP 2111.03 [R-2]. In this case, the instant rejection ground is still proper absence persuasive evidence that the presence of Mn(II) ions in the coating solution of Riesop in view of Murphy and Lindert materially changes the characteristics of applicant's invention.

Regarding claim 26, since the temporary protective coating solution of Riesop in view of Murphy and Lindert is an aqueous solution and comprises phosphate ions and hexafluorotitanate ions, the claimed acid such as fluorotitanic acid and phosphoric acid would have inherently been present in the temporary protective coating solution of Riesop in view of Murphy and Lindert. In addition, since Riesop in view of Murphy and Lindert teaches a temporary protective coating solution having overlapping component concentrations as claimed anti-corrosive treatment composition, one of ordinary skill in the art would have found it obvious that the ratio of amino-phenolic polymer and acid in the coating solution of Riesop in view of Murphy and Lindert would have also overlap the claimed amino-phenolic polymer to acid ratio. Therefore, a prima facie case of

obviousness exists. See MPEP 2144.05. The selection of claimed amino-phenolic polymer to acid ratio range from the inherently disclosed amino-phenolic polymer to acid ratio range of Riesop in view of Murphy and Lindert would have been obvious to one of ordinary skill in the art since Riesop in view of Murphy and Lindert teach the same utilities in their inherently disclosed amino-phenolic polymer to acid ratio range.

### ***Response to Arguments***

7. Applicant's arguments filed 14 January 2008 have been considered but are not persuasive.

In the remarks, applicant argues that Riesop does not disclose removing of the corrosion protection layer and Murphy teaches removal of an organic coating, not an inorganic temporary coating.

Murphy conveys a concept of removing an existing coating when coating defects occur or when it is desirable to use a different type of coating. See paragraph 4 above. Since the coating of Riesop is a temporary coating to protect metal surfaces during shipping and storage, one of ordinary skill in the art would have expected that the quality of the temporary coating to deteriorate over time. Therefore, one of ordinary skill in the coating art, including the electrochemically applied temporary coating art, would have found it obvious, in light of the teaching of Murphy, to remove the existing coating of Riesop in preparation for another subsequent coating for the reasons set forth in Murphy.

Applicant's remaining arguments are addressed in the reasons of rejections as set forth in paragraphs 4-6 above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lois Zheng whose telephone number is (571) 272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/  
Supervisory Patent Examiner, Art  
Unit 1793

LLZ